

TREATMENT OF FEMALE VETERANS WITH POSTTRAUMATIC STRESS DISORDER: THE ROLE OF COMFORT IN A PREDOMINANTLY MALE ENVIRONMENT

Alan Fontana, Ph.D. and Robert Rosenheck, M.D.

This study examines the role of women's comfort in coming for treatment of posttraumatic stress disorder in a predominantly male environment. Consecutive admissions ($N = 224$) to the Department of Veterans Affairs (VA)'s Women's Stress Disorder Treatment Teams were enrolled in an outcome study from July 1998 through June 2000. Women reported that they were somewhat comfortable in coming to the VA for their mental health care. For women who had no prior experience with the VA, comfort increased with their exposure to the treatment program. Further, for this group of women, comfort level was related significantly to their commitment to working in therapy and the regularity of their attendance in treatment over time. There were no significant changes in comfort level for women who had prior contact with the VA. Comfort level was unrelated to satisfaction and only minimally related to clinical outcomes. The primary role of women's comfort level, therefore,

Alan Fontana, Ph.D., is Director of PTSD Evaluations, Northeast Program Evaluation Center and Research Scientist in Psychiatry, Yale University School of Medicine.

Robert Rosenheck, M.D., is Director, Northeast Program Evaluation Center and Professor of Psychiatry and Public Health, Yale University School of Medicine.

Address correspondence to Alan Fontana, Ph.D., NEPEC (182); VA Connecticut Healthcare System—West Haven Campus; 950 Campbell Avenue, West Haven, CT 06516; e-mail: Alan.Fontana@med.va.gov.

appeared to be as a facilitator of their participation in the therapeutic process.

KEY WORDS: posttraumatic stress disorder; treatment; women; veterans; comfort.

INTRODUCTION

For the past two decades, women have been a growing segment of the US Armed Forces, constituting 15% of all armed forces personnel in 2001 (1). As a result, female veterans, currently 5% of all US veterans, are an increasingly important component of the population served by the Department of Veterans Affairs (VA) health care system (2). Throughout its history, the VA has served an overwhelmingly male population, and as a result there is concern about its ability to provide both acceptable and effective services to women. Although there is evidence that the proportion of female veterans who use VA services is not significantly different from the proportion of men who use these services (3–5), anecdotal reports suggest that women may experience indifference and other forms of discomfort when they seek assistance at VA facilities. In addition, as a result of recent revelations of widespread sexual harassment and abuse of women in the military (6), there has been particular interest in providing specialized services for female veterans who experienced traumatic experiences during their military service.

In response to these concerns, the Veterans Health Administration implemented the Women's Stress Disorder Treatment Team (WSDTT) program at four VA medical centers in 1993. This program was established on the premise that vulnerable populations are often best served by specialized programs that are staffed by clinicians who have, or who can develop, a special sensitivity to and expertise concerning the unique clinical needs of these populations. Women's comfort in coming to the VA for health care, therefore, is of special interest in the case of the WSDTTs. The present study, therefore, sought to address four questions. 1) What is the initial level of comfort among female veterans entering treatment? 2) Does the initial level of comfort increase with continued participation in specialized treatment? 3) What are the sociodemographic and clinical characteristics of women who are more and less comfortable at the time of entry into treatment? 4) How strongly is the level of comfort associated with participation in treatment, satisfaction with treatment and clinical outcomes?

METHODS

A total of 224 consecutive outpatients provided informed consent at the time they entered treatment and were enrolled in the evaluation of the WSDTTs from July 1998 through June 2000: 66 from Boston MA; 46 from Brecksville OH; 75 from Loma Linda CA; and 37 from New Orleans LA. The study was approved by the institutional review board at each participating facility. Ninety-eight percent of the women invited to participate in the study did so. Patients averaged 41.11 ($SD = 10.09$) years of age and 13.77 ($SD = 1.68$) years of education. Twenty-eight percent were currently married, 40 percent were separated or divorced, and 29 percent were never married. Forty-four percent were of minority ethnicity.

A previous VA study found that the WSDTT Program had been *implemented* successfully, with all four of the present sites seeing women who were suffering from stress reactions to traumas to which they had been exposed while on active duty in the military (7). That study documented that WSDTT treatment programming emphasizes individual and group therapy with a cognitive behavioral approach. In general, 95% of women are treated by a female therapist, 48% have served overseas, and 18% have served in a war zone. Of the latter, the most prevalent war zone is the Persian Gulf (7%). While 12% of the entire sample has been under enemy fire and 21% have been in danger of death or injury, far greater percentages of women experience sexual traumatization by their male counterparts. Eighty-four percent have been sexually harassed verbally, 63% have been sexually harassed physically, and 43% have experienced an actual or attempted sexual assault.

Data Collection

In the present study, we selected a two-year time-period for enrollment in order to ensure a large enough sample to yield stable results. Evaluation assistants, who were not associated clinically with the programs, collected data from patients and their clinicians. Comfort, satisfaction and outcomes were evaluated longitudinally, with assessment of clinical status and comfort in coming to the VA at intake, and four and eight months later. Satisfaction was assessed at four and eight months after intake. Four and eight months were selected as the follow-up points on the basis of a previous evaluation of VA specialized outpatient treatment of PTSD primarily involving men (8,9). That evaluation found that virtually all change in clinical status took place during the first four months following the beginning of treatment. Over a

subsequent period of 20 months, there was no appreciable change in clinical status.

Attrition

Sixty-three percent ($N = 136$) of the veterans remained in treatment for the full eight months of the study. Eighteen percent ($N = 39$) terminated treatment by four months and another 19% ($N = 42$) terminated treatment by eight months. Data regarding attrition were unavailable for seven veterans. None of the study measures of sociodemographic background, military history, personality orientation, or prior psychiatric treatment differed significantly with regard to attrition status.

Measures

The means, standard deviations and ranges for all measures are presented in Table 1. For measures taken at multiple times, values are presented for the intake time-point to permit maximum representation of the sample size. Veterans' sociodemographic characteristics, prior mental health treatment, exposure to trauma in the military and selected personality orientations were assessed at intake. Variables included age, education, married marital status (28%), ethnic minority group membership (44%), history of incarceration (12%), receipt of VA compensation or pension for PTSD (57%), and prior outpatient treatment in a VA mental health program (61%).

Military history documented a broad range of military stressors as measured by the Women's War Stress Inventory (10). These stressors were represented by two subscales: duty-related stressors (coefficient $\alpha = .80$) and sexual stressors (coefficient $\alpha = .81$). Duty-related stressors included both combat and noncombat experiences; and sexual stressors included verbal harassment, physical harassment and actual or threatened sexual assault.

We also included several measures of veterans' personality orientations that potentially might be related to their comfort, clinical participation, satisfaction with treatment and outcomes. These included three locus of control orientations (11): internal orientation (coefficient $\alpha = .71$) which focuses on reliance on oneself for effecting change; powerful others orientation (coefficient $\alpha = .73$) which focuses on reliance on a therapist for effecting change; and chance orientation (coefficient $\alpha = .87$) which focuses on one's perceived vulnerability to mental illness. Also included as a personality orientation was veterans' perceptions of social support from family and friends (coefficient $\alpha = .91$) (12).

TABLE 1
Descriptive Statistics for Study Variables

	<i>Mean</i>	<i>Standard deviation</i>	<i>Range</i>
Sociodemographic			
Age	41.11	10.09	21–77
Education (Years)	13.77	1.68	10–18
Married	0.28	0.45	0–1
Minority ethnicity	0.44	0.50	0–1
Incarceration history	0.12	0.33	0–1
Clinical/treatment status			
Service connection for PTSD	0.57	0.49	0–1
Prior contact with VA	0.61	0.49	0–1
Military history			
Duty-related stress	5.03	5.86	0–26
Sexual stress	6.56	3.97	0–12
Personality orientation			
Internal locus of control	13.39	3.38	4–20
Powerful others locus of control	15.56	3.20	6–24
Chance locus of control	23.22	5.56	8–32
Social support (Fam. & Friends)	14.70	4.88	5–25
Participation in treatment			
Commitment	2.43	1.04	0–4
Attendance	2.64	0.86	1–4
Number of individual sessions	10.06	7.18	0–44
Number of group sessions	1.12	2.87	0–15
Therapeutic alliance	20.77	4.07	5–25
Satisfaction	16.71	3.22	4–20
Comfort level	3.04	0.95	1–4
Influences on comfort level			
Availability of specialized program	1.84	1.15	0–3
Predominance of male population	1.41	1.10	0–3
Safety of the facility	1.23	1.23	0–3
Safety of the neighborhood	1.07	1.17	0–3
Availability of child care	0.34	0.83	0–3
Clinical status			
PTSD–short mississippi scale	32.30	7.76	12–51
PTSD–NEPEC scale	12.89	4.55	4–20
Alcohol use (ASI)	0.08	0.17	0–.92
Drug use (ASI)	0.03	0.08	0–.72
Medical condition (ASI)	0.71	0.37	17–1.17
Violence	0.70	1.07	0–4
Work (Days)	8.84	11.14	0–30
Global functioning (GAF)	52.67	7.83	30–85
Quality of life	3.27	1.31	1–7
Sickness impact	10.17	2.01	3–12

The *quality* of veterans' participation in treatment was measured by single items representing therapists' clinical impressions of veterans' commitment to working in therapy (0 = not at All to 4 = maximally) and their regularity of attendance in therapy (1 = attended only once or twice to 4 = attendance has been perfect). The *quantity* of veterans' participation in treatment was measured by the number of individual and group sessions veterans received in the previous four months. Veterans' impressions of the strength of the alliance that existed between themselves and their therapists were obtained from five items (coefficient $\alpha = .92$) that were taken from the Therapeutic Alliance Scale that was developed originally by Horvath and Greenberg (13) and modified by Neale and Rosenheck (14) and Chinman, Rosenheck and Lam (15). Alliance items ask for patients' perceptions of having a shared understanding of desirable changes with their therapists, working on mutually agreed upon goals with their therapists, and the helpfulness of their therapists. Veterans' satisfaction with treatment was measured by four items derived from the work of Attkisson and Zwick (16) (coefficient $\alpha = .86$). Descriptive statistics are based on the four-month data.

We measured veterans' comfort in coming to the VA for mental health services by the single item, "At the present time, how comfortable do you feel in seeking health care from the VA for an emotional or psychological problem?" The choices were "1-very uncomfortable", "2-somewhat uncomfortable", "3-somewhat comfortable, and "4-very comfortable". In addition, on 4-point scales ranging from "0-not at all" to "3-a lot," we asked about the extent to which veterans' comfort level was affected by each of the following: availability of specialized treatment for women, the VA's predominantly male population, safety within the facility, safety of the neighborhood, and availability of child care.

Commitment, and attendance were assessed at four and eight months. Veterans' impressions of the therapeutic alliance with their prior therapists and their comfort in coming to the VA for services prior to treatment with the WSDTT were assessed at intake as well as at four and eight months.

We included several measures of clinical status. Descriptive statistics represent the intake levels. PTSD was measured by a short version of the Mississippi Scale that had been developed to be maximally sensitive to change in treatment while retaining high correspondence with the full scale (coefficient $\alpha = .81$) (17). We augmented the assessment of PTSD by including another measure of PTSD in the form of the four-item NEPEC Scale (coefficient $\alpha = .84$) that has been used in other studies of VA PTSD treatment (18) and that has a strong but nonredundant correspondence with the Mississippi Scale ($r = .68$). Items from

the NEPEC Scale ask veterans to report the extent to which they: were bothered by military experiences repeatedly coming back to them, deliberately tried to avoid thinking about what happened to them in the military, felt more emotionally distant or numb than before the military, and had trouble sleeping or had been unusually irritable or jumpy.

Alcohol, Drug and Medical composite indices were taken from the Addiction Severity Index (19); and a violence scale was derived from items in the National Vietnam Veterans Readjustment Study (coefficient $\alpha = .70$) (20). The number of days employed in the previous month constituted the work index ($M = 8.84$, $SD = 11.14$, Range = 0–30).

Further, we included measurement of overall adjustment in the form of the Global Assessment of Functioning Scale (GAF) (21); Quality of Life Scale (22); and the perceived impact of mental illness on social functioning (coefficient $\alpha = .78$) (23). This last variable was measured by three items that called for veterans' perceptions of the extent to which "emotional problems caused problems with work or other regular daily activities." All these measures were assessed at intake, four months and eight months.

Data Analysis

Analysis of variance, t-test, chi-square, correlation and multiple regression analysis were used to perform statistical tests on the data. In addition, repeated measures analyses were performed by the SAS system for mixed models, using a first-order autoregressive structure on the covariance matrix (24).

RESULTS

Analyses of variance revealed that the four individual WSDTT treatment programs did not differ significantly among themselves in comfort, treatment participation, satisfaction and clinical outcomes. The absence of differences across the individual programs justified pooling the data for subsequent analyses.

We divided the sample according to whether subjects received prior outpatient mental health treatment from the VA or not. We expected that prior contact with the VA for mental health treatment might well affect veterans' current comfort in coming to the VA for mental health treatment. We included this distinction, therefore, as a stratifying variable in our analyses.

Analysis of variance of the comfort scores over time was conducted by the repeated measures procedure for mixed models. Means and

TABLE 2
Means* for the Interaction of Prior Contact with**
the VA and Time for the Level of Comfort

	<i>Intake</i>	<i>4 Months</i>	<i>8 Months</i>
No Prior Contact	2.94 (.11)	3.39 (.12)	3.21 (.13)
Prior Contact	3.11 (.08)	3.01 (.10)	3.05 (.11)

*Standard errors in parentheses.

** $F = 4.53$, $df = 2/284$, $p < .02$.

standard errors for the interaction of prior contact and time are presented in Table 2. There were no significant main effects for prior contact and time, but there was a significant interaction between prior contact and time. Contrary to our expectations, the groups did not differ significantly in level of comfort initially ($t = 1.23$, 284 df, $p < .25$). The mean levels of comfort at intake indicate that veterans were "somewhat comfortable" upon entry into treatment, irrespective of their prior contact with the VA. They identified the strongest influence on their comfort level to be the availability of a specialized program for women, with the predominantly male population next in importance.

The interaction shows that veterans who had no prior contact with the VA became more comfortable over time while veterans who had prior contact with the VA did not change in level of comfort ($F = 4.53$, $df = 2/284$, $p < .02$). Comparison of the means showed even more precisely that the change in comfort for veterans who had no prior contact with the VA was most pronounced from intake to four months ($t = 3.16$, 284 df, $p < .01$), and that the difference in comfort between these veterans and those who had prior contact with the VA was significant at four months ($t = 2.38$, 284 df, $p < .05$).

Next, we correlated veterans' comfort level at intake with baseline variables measuring their sociodemographic characteristics, military history, personality orientations and clinical status at the time of entry into treatment. For veterans who had no prior contact with the VA, the only significant association was a negative correlation between comfort and minority ethnicity ($r = -.24$, $df = 84$, $p < .05$). For veterans who did have prior contact with the VA, there was a significant negative correlation between comfort and educational level ($r = -.22$, $df = 136$, $p = .01$). There were no significant correlations involving military history, personality orientations or clinical status.

Finally, we compared the comfort level at intake and four months to treatment participation, satisfaction and clinical outcomes that took place during the four months following each time point. That is, comfort at intake was compared to treatment participation, satisfaction and clinical outcomes from intake to four months; and comfort at four months was compared to treatment participation, satisfaction and clinical outcomes from four months to eight months. Prior to conducting the comparisons with outcomes, however, we examined each clinical measure to determine if there were any significant improvements or deteriorations among the outcomes (Table 3). Factorial analyses of variance of the clinical variables (prior contact \times time) were conducted by the repeated measures procedure for mixed models. There were no significant interactions between prior contact and time. There were, however, significant main effects by time for PTSD as measured by the Mississippi

TABLE 3
Means[#] over Time for Clinical Outcomes

	<i>Intake</i>	<i>4 Months</i>	<i>8 Months</i>	<i>F</i>
Outcomes				
PTSD–Mississippi	32.00 (.54)	30.32 (.58)	30.24 (.61)	10.65***
PTSD- NEPEC	12.78 (.32)	12.33 (.33)	12.31 (.35)	2.28
Alcohol Use	.08 (.01)	.08 (.01)	.10 (.01)	1.08
Drug Use	.03 (.01)	.04 (.01)	.06 (.01)	6.29**
Violence	.67 (.07)	.46 (.08)	.46 (.08)	4.95**
Work	9.30 (.74)	9.79 (.81)	9.26 (.87)	.36
Medical condition	.70 (.03)	.67 (.03)	.61 (.03)	3.10*
Global functioning	52.98 (.59)	55.48 (.63)	55.99 (.69)	10.64***
Quality of life	3.29 (.09)	3.71 (.10)	3.85 (.11)	11.22***
Sickness impact	10.13 (.15)	9.02 (.17)	9.16 (.16)	24.85***

[#]Standard errors in parentheses, $df = 2/285$.
* $p < .05$; ** $p < .01$; *** $p < .0001$.

Scale, drug use, violence, medical condition, global functioning, quality of life and sickness impact. Examination of the means reveals that the changes represented improvements for PTSD, violence, medical condition, global functioning, quality of life and sickness impact. There was, however, a significant worsening for drug use. All significant changes took place in the interval from intake to four months.

Comparisons between comfort level and participation, satisfaction and the outcomes that showed significant change were conducted by multiple regression analyses with ethnicity and education included as covariates. The regression coefficients representing these comparisons can be found in Table 4. Reference to the table shows that for veterans who had no prior contact with the VA, there were significant regression coefficients between greater comfort and both greater commitment and attendance in each four-month interval. There was one significant regression coefficient for outcomes: greater comfort was associated with an improvement in drug use between four and eight months. For veterans who had prior contact with the VA, there were no significant

TABLE 4
Standardized Regression Coefficients between Comfort Level and Treatment Participation, Satisfaction and Clinical Outcomes

	<i>No prior contact</i>		<i>Prior contact</i>	
	<i>Intake to 4 Months</i>	<i>4 Months to 8 Months</i>	<i>Intake to 4 Months</i>	<i>4 Months to 8 Months</i>
Participation				
Commitment	.26*	.33*	.03	.10
Attendance	.29*	.32*	.07	.20
Therapeutic alliance	.18	-.14	.13	.09
Individual sessions	.07	.10	.17	-.09
Group sessions	.17	-.06	-.03	.10
Satisfaction	.06	.15	.07	.11
Outcomes				
PTSD–Mississippi	.10	.00	-.03	.17
Drug use	.13	-.39*	-.04	-.11
Violence	.04	-.17	.07	.20
Medical condition	-.08	-.05	.14	.10
Global functioning	.06	.01	-.17	.05
Quality of life	.08	-.24	-.17	.14
Sickness impact	-.01	.03	-.11	.08

* $p < .05$.

regression coefficients between comfort level and any of the variables for participation, satisfaction or outcome.

DISCUSSION

As a group, women treated for military-related stress disorder were “somewhat comfortable” in coming to the VA for specialized PTSD treatment from the start. They reported that the most important factor contributing to their level of comfort was the availability of a specialized treatment program for women. It appears that this step taken by the VA to accommodate the specific concerns of traumatized women was successful in reducing much of the apprehension that might have been associated initially with coming for treatment in a predominantly male environment.

Prior contact with the VA for mental health treatment was a critical experience in determining change in comfort coincident with subsequent contact with the treatment program. Whereas women who did have prior contact with the VA reported no change in comfort level over the eight-month period, women who did not have prior contact with the VA reported an increase in comfort from intake to four months. It is possible that the increase in comfort over time for the women who had no prior experience with the VA represented a “novelty effect” in that they were pleasantly surprised with the accommodation to the special needs that the VA had made by establishing a specialized program for traumatized women.

Within the groups of women who did and did not have prior contact with the VA, there are relatively few sociodemographic, military history, personality or clinical characteristics that are associated with level of comfort. Among women who did not have prior contact with the VA, those of minority ethnicity had lower comfort levels; and, among women who did have prior contact with the VA, those with higher levels of education had lower comfort levels. Explanation of these findings is admittedly speculative. But with this caveat in mind, we offer the following possibilities. Minority veterans may have been particularly apprehensive about receiving fair treatment in a predominantly Caucasian environment; and more highly educated veterans may have been more apprehensive about receiving high quality treatment in a “public institution” that was geared to providing services to the poor and disadvantaged.

Women’s comfort level did not have a significant effect on their satisfaction with treatment, but it appeared to have a beneficial effect on

the quality of their participation in treatment among those who did not have prior contact with the VA. Women who were more comfortable impressed their therapists as being more committed to working in therapy and as being more regular in keeping their therapy appointments. This was true in both the first four and second four months of treatment. This relationship also suggests that therapists may want to consider how comfortable a female patient feels in the treatment setting when patients' attendance is poor or when patients' commitment to therapy is in question.

Despite the presence of significant change in clinical status on several measures, there was virtually no evidence of an effect of comfort on treatment outcomes. There was one relationship that was significant: greater improvement in drug use in the fourth to the eighth month by women who had no prior contact with the VA. The lack of replication of this single relationship in the context of the large number of comparisons with outcomes casts doubt on its generalizability. The most justified conclusion is that there is very weak if any contribution to clinical outcomes from veterans' level of comfort.

On the whole, the VA's attempt to address women's discomfort in coming for treatment by establishing a specialized program for women has been successful in reducing possible apprehensions about coming for treatment in a predominantly male environment. Although there was no change in the level of comfort over time for women who had prior contact with the VA, there was a significant increase in comfort for women who did not have prior contact with the VA. The primary impact of comfort level on treatment appears to be on the quality of participation in the therapeutic process rather than on clinical outcomes.

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